

Re: 12 LED resistance circuit help

Source: <http://sci.tech-archive.net/Archive/sci.electronics.basics/2005-04/msg01096.html>

- *From:* John Bokma <postmaster@xxxxxxxxxxxxxxxxx>
 - *Date:* 23 Apr 2005 00:37:41 GMT
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Brilla wrote:

- > Hi, I want to make a simple LED circuit with 12 LEDs running off a
- > nine volt battery. I've managed to dig up enough information about
- > most things, so I know I'll have to wire them in parallel. But the
- > resistance I should be using still confuses me.
- > Should I have one (or more) resistors at the beginning of the circuit?
- > Or one before each LED in the circuit?
- >
- > The LEDs I'm using have a 3.6v voltage drop, and they are supposed to
- > get 20mA I beleive.
- > So that's 12 LEDs off a 9v battery.

<http://johnbokma.com/pet/scorpion/detection-using-uv-leds.html>

9V, 3.6V drop ->

$$9V - (2 \times 3.6 V) = 1.8 V$$

so you want to have 1.8V over your resistor.

the 2 LEDs in series use 20mA ->

1.8V

$$20 \text{ mA} = 90 \text{ Ohm}$$

With 12 LEDs, you need 6 resistors. And the total current should be around $6 \times 20 \text{ mA} = 120 \text{ mA}$.

Note that I did this calculation, later checked it with a voltage meter, and yet already 2 exotic LEDs died on me. I think it's a bad badge. (Unless someone can point out my errors).

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- *Follow-Ups:*

- ◆ **Re: 12 LED resistance circuit help**

- ◆ *From:* Anthony Fremont

- *References:*

- ◆ **12 LED resistance circuit help**

- ◆ *From:* Brilla

- Prev by Date: **Re: Scope question**

- Next by Date: **Re: Changing photo resistor resistance range.**

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